

**CONTINUOUS PROCESS FOR CONTROLLED
EVAPORATION OF WEAK BLACK LIQUOR**

ABSTRACT

5 Described is a process for concentrating weak black liquor to form strong black
liquor, said process comprising: a) preconcentrating said weak black liquor; b) heating
said preconcentrated weak black liquor in a heating zone under sufficient pressure to
prevent said preconcentrated weak black liquor from boiling in said heating zone; c)
10 passing said preconcentrated weak black liquor, having at least one volatile component,
into an evaporation zone through one or more orifices; d) applying pressure in said
evaporation zone that is lower than the vapor pressure of said preconcentrated weak black
liquor as it is passed into said evaporation zone, which allows for flash evaporation of at
least a portion of said at least one volatile component of said preconcentrated weak black
liquor from said preconcentrated weak black liquor to form strong black liquor; e)
15 adjusting heat in said heating zone., pressure in said heating zone and pressure in said
evaporation zone to allow for evaporation of an amount of said at least one volatile
component from said preconcentrated weak black liquor to form said strong black liquor;
and f) collecting said strong black liquor from said evaporation zone.

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